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(54) Iridium conductive electrode/barrier structure and method for same

(57) A conductive barrier, useful as a ferroelectric capacitor electrode, having high temperature stability has been provided. This conductive barrier permits the use of Iridium (Ir) metal in IC processes involving annealing. Separating silicon substrate from Ir film with an intervening, adjacent, tantalum (Ta) film has been found to very effective in suppressing diffusion between layers. The Ir prevents the interdiffusion of oxygen into the silicon during annealing. A Ta or TaN layer prevents the

diffusion of Ir into the silicon. This Ir/TaN structure protects the silicon interface so that adhesion, conductance, hillock, and peeling problems are minimized. The use of Ti overlying the Ir/TaN structure also helps prevent hillock formation during annealing. A method of forming a multilayer Ir conductive structure and Ir ferroelectric electrode are also provided.

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X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14, 31 December 1998 (1998-12-31) -& JP 10 242078 A (SHARP CORP), 11 September 1998 (1998-09-11) * abstract *	1, 3, 9, 11, 24, 28	H01L29/45 H01L21/28						
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<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE NAGUE</td> <td>24 January 2002</td> <td>Bailllet, B</td> </tr> </table> <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background D : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document</p>				Place of search	Date of completion of the search	Examiner	THE NAGUE	24 January 2002	Bailllet, B
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